

## Claim

1. A potassium channel protein or an equivalent thereof, which has an amino acid sequence selected from either of Sequence Nos. 2 and 6, or an amino acid sequence resulting from said amino acid sequence by substitution, deletion or insertion of certain amino acid(s), and is expressed exclusively in the brain.

2. The potassium channel protein or an equivalent thereof according to claim 1, which is expressed exclusively in the human brain.

3. A potassium channel protein which has an amino acid sequence selected from either of Sequence Nos. 2 and 6.

4. A gene which has a gene sequence encoding the potassium channel protein or an equivalent thereof described in claims 1 to 3.

5. A gene which has a gene sequence encoding an amino acid sequence selected from either of Sequence Nos. 2 and 6.

6. A gene which has a gene sequence selected from either of the 6th to 3257th gene sequence of Sequence No. 1 or the 4th to 3057th gene sequence of Sequence No. 5, or a gene which is degenerate with respect to said gene.

7. A vector which contains the gene described in claims 4 to 6.

8. A host cell which contains the vector described in claim 7.

9. A method for producing the potassium channel protein described in claims 1 to 3, which uses the host cell described in claim 8.